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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/784,109

02/20/2004

Seth A. Lieffort

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08/14/2007

3M INNOVATIVE PROPERTIES COMPANY

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EXAMINER

NGUYEN, TUAN HOANG

ART UNIT

PAPER NUMBER

2618

NOTIFICATION DATE

DELIVERY MODE

08/14/2007

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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**Office Action Summary**

Application No.

10/784,109

Applicant(s)

LIEFFORT ET AL.

Examiner

Tuan H. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 April 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 17-25 is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/08/2007 has been entered.

### *Response to Arguments*

2. Applicant's argument, see applicant's remarks, filed on 04/09/2007, with respect to the rejection(s) of claims 2-16 and 18-25 under 35 U.S.C § 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kunz (US PAT. 6,127,989) and See (U.S PAT. 6,285,327). Furthermore, the Applicant argues that one of ordinary skill would reasonably conclude the inventors contemplated an antenna that forms an electromagnetic field at or above a threshold level necessary for communication with RFID tags, as required by amended claims 1 and 17. Applicant's further states that specification as a whole, and in particular, paragraphs [0002]-[0007]

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and [0045]-[0046], describes an antenna that forms an electromagnetic field at or above a threshold level necessary for communication with RFID tags with sufficient detail that one skilled in the art could reasonably conclude that the inventor had possession of the claimed invention. The Examiner disagrees with this argument. The Examiner careful review the specification specifically the paragraphs [0002]-[0007] and [0045]-[0046], and can NOT find the support from the specification that an electromagnetic field generated for communication with RFID tags may be at or above a threshold level necessary for communication with the RFID tags. Therefore, the rejection under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement is maintained.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1 and 17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Claims 1 and 17 are not properly described in

the application as filed, and the specification was not contain a written description an antenna that forms an electromagnetic field at or above a threshold level necessary for communication with RFID tags, wherein the antenna has a substantially planar form. Therefore, the amendment of the claimed raises an issue of new matter.

### ***Double Patenting***

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory

double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1-3, 5, and 13-16 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 12, 13, and 21-25 of copending Application No. 10/784,124. Although the conflicting claims are not identical, they are not patentably distinct from each other because they commonly comprise a RFID system having an antenna and a substantially contiguous conductive shield positioned around the antenna, the conductive shaped the electromagnetic to extend substantially in a direction perpendicular to the antenna, and prevented the electromagnetic field from forming substantially over the conductive shield, wherein the antenna comprises a plurality of conductive loops spaced apart at least a distance  $D$ , the RFID tag has a maximum dimension  $M$ , and the distance  $D$  is selected such that  $D \geq M$ ,... This is a provisional obviousness-type double 6. Claim 25 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 26 of copending Application No. 10/784,124. Although the conflicting claims are not identical, they are not patentably distinct from each other because they commonly comprise the method having the steps of determining a dimension  $M$  of a

RFID tag, selecting a distance D based on the dimension M, and positioning a plurality of an a plurality of conductive loops antenna the selected distance D apart for communication with the RFID tag within the RFID system.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 3-6, 9-12, 14-15, 17, 19, 22-23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunz (US PAT. 6,127,989) in view of See (U.S PAT. 6,285,327).

Consider claim 1, Kunz teaches a radio frequency identification (RFID) system comprising: an antenna that forms an electromagnetic field at or above a threshold level necessary for communication with RFID tags, wherein the antenna has a substantially planar form (fig. 2 col. 2 lines 1-25).

Kunz does not explicitly show that a substantially-contiguous conductive shield positioned a distance from the antenna within a plane parallel to the antenna to define an outermost region of a communication zone within the plane parallel to the antenna, wherein the conductive shield has a width that extends in the plane parallel to the

antenna such that the electromagnetic field at any region beyond the conductive shield is below the threshold level.

In the same field of endeavor, See teaches a substantially-contiguous conductive shield positioned a distance from the antenna within a plane parallel to the antenna to define an outermost region of a communication zone within the plane parallel to the antenna, wherein the conductive shield has a width that extends in the plane parallel to the antenna such that the electromagnetic field at any region beyond the conductive shield is below the threshold level (col. 12 line 48 through col. 13 line 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use, a substantially-contiguous conductive shield positioned a distance from the antenna within a plane parallel to the antenna to define an outermost region of a communication zone within the plane parallel to the antenna, wherein the conductive shield has a width that extends in the plane parallel to the antenna such that the electromagnetic field at any region beyond the conductive shield is below the threshold level, as taught by See, in order to decrease the interaction of an internal antenna with other elements or conductors in a wireless device, which otherwise degrades performance.

Consider claim 17, Kunz teaches a method comprising: providing an antenna that forms an electromagnetic field at or above a threshold level necessary for communication with RFID tags, wherein the antenna has a substantially planar form (fig. 2 col. 2 lines 1-25).



Kunz does not explicitly show that selecting a width of a substantially-contiguous conductive shield such that when the conductive shield is positioned a distance from the antenna within a plane parallel to the antenna to define an outermost region of a communication zone within the plane parallel to the antenna, the electromagnetic field at any region beyond the conductive shield is below the threshold level; and positioning the substantially-contiguous conductive shield having the selected width around the antenna a distance from an outer loop of the antenna.

In the same field of endeavor, See teaches selecting a width of a substantially-contiguous conductive shield such that when the conductive shield is positioned a distance from the antenna within a plane parallel to the antenna to define an outermost region of a communication zone within the plane parallel to the antenna, the electromagnetic field at any region beyond the conductive shield is below the threshold level; and positioning the substantially-contiguous conductive shield having the selected width around the antenna a distance from an outer loop of the antenna (col. 12 line 48 through col. 13 line 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use, selecting a width of a substantially-contiguous conductive shield such that when the conductive shield is positioned a distance from the antenna within a plane parallel to the antenna to define an outermost region of a communication zone within the plane parallel to the antenna, the electromagnetic field at any region beyond the conductive shield is below the threshold level; and positioning the substantially-contiguous conductive shield having the selected width around the

antenna a distance from an outer loop of the antenna, as taught by See, in order to decrease the interaction of an internal antenna with other elements or conductors in a wireless device, which otherwise degrades performance.

Consider claims 3 and 19, kunz further teaches the conductive shield comprises planar conductive regions oriented to form a non-shielded inner region, and further wherein the antenna is disposed within the non-shielded inner region and parallel to the planar conductive regions (see fig. 2 col. 2 lines 9-20).

Consider claim 4, kunz further teaches the conductive regions define at least one disconnect area that prevents the conductive shield from forming a closed conductive loop around the antenna (col. 1 lines 28-34).

Consider claim 5, kunz further teaches the antenna comprises one or more conductive loops including an outer loop, and the conductive regions of the conductive shield are located at least a distance  $D$  from an outer loop of the antenna that is selected based on a radius of the outer loop (see fig. 2 col. 1 lines 49-57).

Consider claim 6, kunz further teaches the antenna has a first conductive loop having a radius  $D1$  and a concentric second conductive loop having a radius  $D2$ , and the conductive regions of the conductive shield are located at least a distance  $D3$  from

the outer loop, and wherein D3 is selected as approximately the average of D1 and D2 (see fig. 2 col. 2 lines 9-13).

Consider claims 9 and 22, kunz further teaches the antenna and the conductive shield are mounted to a working surface of an RFID check-in/check-out area (see fig. 2 col. 2 lines 1-3).

Consider claims 10 and 23, kunz further teaches the working surface has a recessed area and a non-recessed area, and further wherein the antenna is mounted to the recessed area of the working surface and the conductive shield is mounted to the non-recessed area (see fig. 2 col. 2 lines 1-3).

Consider claim 11, kunz further teaches the conductive shield and the antenna are co-planar (see fig. 2 col. 2 lines 14-20).

Consider claim 12, kunz further teaches the conductive shield and the antenna are located in two different parallel planes (see fig. 2 col. 2 lines 14-20).

Consider claim 14, kunz further teaches the antenna comprises a plurality of conductive loops to produce the electromagnetic field, and wherein the conductive loops are spaced apart at least a distance D that is selected based on a dimension of the

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RFID tags with which the antenna communicates (see fig. 2 col. 2 lines 14-20).

Consider claim 15, kunz further teaches the distance D is selected to exceed a maximum dimension of the RFID tags (see fig. 2 col. 2 lines 14-20).

Consider claim 25, kunz further teaches determining a dimension M of the RFID tags for use within an RFID system; selecting a distance D based on the dimension M; and positioning a plurality of conductive loops of the antenna the selected distance D apart for communication with the RFID tag within the RFID system (see fig. 2 col. 2 lines 14-20).

9. Claims 2, 7-8, 13, 18, 20-21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunz in view of See and further in view of Krebs (U.S. PUB. 2004/0224135).

Consider claims 2 and 18, Kunz and See, in combination, fails to teaches the width of the conductive shield within the plane parallel to the antenna shapes the electromagnetic field to extend substantially in a direction perpendicular to the antenna, and prevents the electromagnetic field from forming substantially over the conductive shield.

However, Krebs teaches the width of the conductive shield within the plane parallel to the antenna shapes the electromagnetic field to extend substantially in a

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direction perpendicular to the antenna, and prevents the electromagnetic field from forming substantially over the conductive shield (figs. 3-5 page 3 [0034] and page 4 [0035]).

Therefore, it is obvious to one of ordinary skill in the art at the time the invention was made to incorporate the disclosing of Krebs into view of Kunz and See, in order to allow the reading of desired RFID tags while preventing the reading of undesired RFID tags (see Krebs abstract and page 1 [0008]).

Consider claim 7, Krebs further teaches each of the conductive regions have respective widths extending outward from the antenna, and further wherein the widths are selected based at least in part on a threshold level of the magnetic field necessary for RFID communication between the antenna and the RFID tags (page 2 [0023]).

Consider claims 8 and 21, Krebs further teaches the widths are selected to extend sufficiently in directions parallel to and outward from the antenna to prevent the electromagnetic field from forming in or above the conductive regions until the strength of the magnetic field reduces to below the communication threshold (page 2 [0024]).

Consider claims 13 and 24, Krebs further teaches an RFID interrogation device coupled to the antenna, wherein the interrogation device interrogates the RFID tags to obtain information Consider associated articles; and a computing device to process the information retrieved from the RFID interrogation device (page 2 [0022]).

Consider claim 20, Krebs further teaches selecting each of the widths of each of the conductive regions based at least in part on the threshold level of the magnetic field necessary for RFID communication between the antenna and the RFID tags (page 2 [0023]).

***Allowable Subject Matter***

10. Claim 16 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

11. Any response to this action should be mailed to:

Mail Stop\_\_\_\_\_ (Explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Facsimile responses should be faxed to:

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Alexandria, VA 22313

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan H. Nguyen whose telephone number is (571)272-8329. The examiner can normally be reached on 8:00Am - 5:00Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Maung Nay A. can be reached on (571)272-7882882. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information Consider the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan Nguyen  
Examiner  
Art Unit 2618 *T.N.*

*Nay Maung*  
**NAY MAUNG**  
**SUPERVISORY PATENT EXAMINER**